

ABSTRACT OF THE DISCLOSURE

An optical cross-connect switch employing pallets of mirror assemblies configured as an array, wherein each mirror assembly includes a mirror that is rotatable in a two-axis system to steer a beam in 2-dimensional space. Each mirror assembly includes a mirror module that can be rotated in relation to a first axis as well as in relation to a second axis that is perpendicular to the first axis. The mirror modules are suspended by wires in a manner that allows the pitch and roll of the mirror module to be controlled. Coils and magnets are employed to generate magnetic fields which create a rotating torque in each of the two rotational axes. By controlling the magnetic fields that are generated, the degree of rotation can in turn be controlled. The configuration provides for a practical, area efficient, bi-directional, randomly addressable optical cross-connect switch design that can employ conventional materials and processes.